

Saturn Enters Arsenal of Simulation Technologies

The successful first firing of Saturn, the nation's most powerful X-ray source, marked a pair of milestones, one for all the Sandians involved in the design and construction program, another for Sandia itself.

For the 300-plus Sandians and contractors who worked to bring Saturn on-line, the Sept. 18 shot was a tremendous achievement. Not only was Saturn completed on schedule and within budget, but it performed exactly as predicted. As Jim Powell, manager of Simulation Technology Dept. 1230, puts it, "The design looks really sound, and all the components seem to be right on the mark. It's a winner."

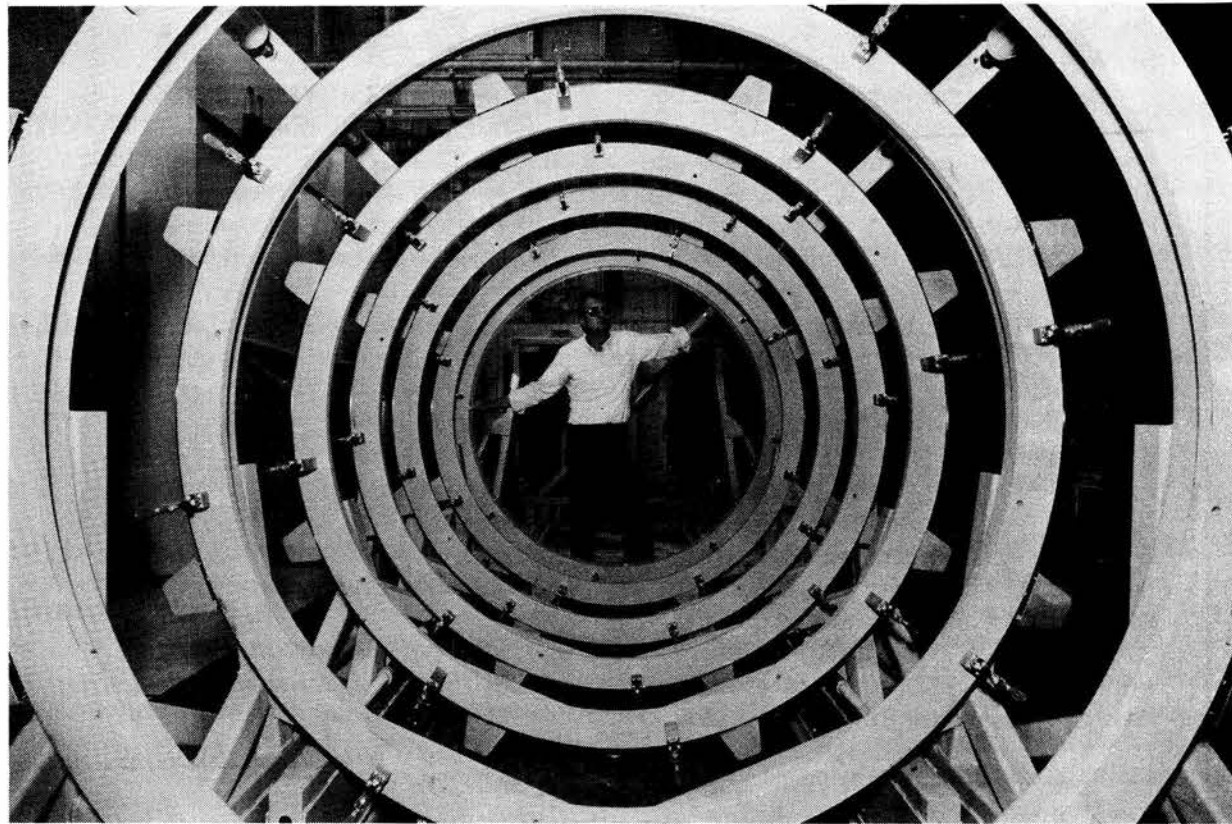
For Sandia, the success means that a powerful new tool has been added to the nation's arsenal of simulation technologies. That is, Saturn generates X-rays that simulate some of the effects created by the detonation of a nuclear weapon. The X-ray threat is the most difficult of the weapon effects to simulate above ground.

Complement to Underground Testing

Saturn will serve as a most useful complement to underground effects shots at Nevada Test Site. "We will now be able to test large components and some subsystems in our machines before they are subjected to underground tests," says Jim. "We'll also be able to do this vulnerability testing more frequently — we don't have the opportunity for full-system underground tests every day — and under more realistic radiation conditions than had been possible before. This should make the underground test program more effective.

"But it's important to note that we are talking 'complement to,' not 'replacement for,' underground testing," Jim continues. "No machine ever completely duplicates all of the radiation effects of a nuclear device."

Pace VanDevender, Director of Pulsed Power Sciences 1200, echoes that theme: "Sandia has a major mission in ensuring the survivability of nuclear



KEN HANKS, Saturn project manager, is framed by the MITL (magnetically insulated transmission lines) alignment and handling fixture, which allows the MITLs to be lifted into and out of Saturn's insulator stack.

Second, Saturn has a comparatively large X-ray exposure area. Its baseline target area — some 500 cm², or 80 square inches — is more than twice the size of Proto II, its Sandia predecessor. That means that larger electronics systems and materials samples than ever before can be tested. And, in an alternate

configuration, Saturn can expose still larger systems to X-ray radiation, though at correspondingly lower dose rates.

Third, Saturn is "high fidelity." In other words, says Larry Choate, supervisor of Simulations Appli-

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LAB NEWS

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Response Teams (Continued)

Unique Emergency Situations Require ES&H, Plant Engineering Help



In our Sept. 11 issue, LAB NEWS discussed emergency response roles of people in Security, Fire Protection, and Medical. But what happens if there's a chemical spill, or someone — say, a contractor — suffers an injury on the roof of one of Tech Area I's multistoried buildings?

In situations such as these, it's likely that specialists from Environment, Safety, and Health (ES&H) Dept. 3310 or Plant Engineering (7800) will be called to the scene.

When problems occur that affect the environment, safety, or health of employees, ES&H Dept.

(Continued on Page Five)

IT LOOKS OTHER-WORLDLY, but it's really down-to-earth equipment. Ernie Sanchez (in front) and Susan Kissam (both 3311), dressed in anti-contamination suits, demonstrate some of the protective garb worn when ES&H people go to the scene of a toxic spill or gas leak. Canisters attached to the front of their full- and half-mask respirators filter the air they breathe; the respirators do not supply oxygen. The "sniffer" in Susan's left hand — a combustible gas indicator — measures gas concentrations in the emergency area. Ernie holds a mercury vapor analyzer.

Narayanamurti: Congratulations

"The successful production of X-rays by Saturn is certainly a significant milestone," says Venky Narayanamurti, Research 1000 VP. "It's very important that our vulnerability testing of all weapon systems include exposure to high-intensity X-rays. So there's no question but that Saturn puts us in very good shape for the future.

"Saturn is also an effective utilization of past achievements — PBFA I and Proto II, for example. The credit for the success of the Saturn project must be shared not only by 1000, but by 7000 and 2000. It's a marvelous example of the kind of project work done at Sandia.

"I personally congratulate all the groups and people involved."

weapons. To do that, we have to test those weapons against the threat of nuclear countermeasures. This above-ground test facility will greatly enhance our ability to perform that mission and will serve as a vital complement to our underground testing program."

What makes Saturn such a good complement to underground shots? First of all, it's powerful — able to subject test samples to substantially higher X-ray radiation doses and dose rates than was earlier possible outside an NTS tunnel. Specifically, Saturn can make use of up to 25 terawatts (trillion watts) of power in the form of a 12.5-million-amp current of electrons accelerated up to 2 million volts.

Antojitos

"Work Hard Eight Hours a Day and maybe you'll get to be the boss -- and work 12 hours a day." That old saw isn't true either -- you don't have to be the boss to put in long hours. Just ask the people, only a handful of them supervisors, involved in the first Saturn shot: "Many of them worked from 6 a.m. to 9 p.m. for four straight days before the shot," reports Larry Choate (1233).

But there were some rewards. Jim Powell (1230) and Don Keller (Ktech) furnished, hosted, and served a barbeque luncheon for 130 of the Sandians and contractors who worked on the project. That didn't include everyone, of course -- some 350 people are on Saturn Project Manager Ken Hanks' (7866) list -- but the guest list included representatives of every known group that made Saturn's first shot a success.

And there were/are other rewards, most notably a feeling of pride in having helped out on an important project, the nation's most powerful X-ray source.

* * *

But They Did Let Her Loose Later Louise Bland (3414) is an excess-property coordinator (I'm hyphenating that title for you, Louise; excess employees don't always last so long around here). She beat her credentials to Boeing Seattle recently, so she had to identify herself before she could enter: "I'm Louise Bland from Sandia National Laboratories in Albuquerque, New Mexico."

The next thing she knew, the clerk was on the phone to his supervisor: "I've got a Mrs. Bran with the Sandinista government in Mexico here. What shall I do?"

"At that point," says Louise, "I didn't know who or what was going to come to get me." But the matter -- and the clerk -- were straightened out soon thereafter.

* * *

World Ends; Details Follow I picked this up from Communications Briefings -- John Quinn, editor of USA Today, created these headlines to describe how the big papers would handle the end of the world: Wall Street Journal -- Stock Exchange Halts Trading as World Ends New York Times -- End of World Hits Third World Hardest Washington Post -- World Ends; May Affect Elections, Sources Say

Let's throw in a couple of others:

Albuquerque Journal -- Referendum Sought to Postpone End of World
LAB NEWS -- End-of-World Procedures Detailed in SLI 9999:

Charge Time to A-508

(Actually, we'd be unlikely to get line approval for the story in time to publish.)

●BH

* * *

No echamos de menos al agua hasta que se seca la noria. (You don't miss the water till the well runs dry.)

29 Local Agencies Need Help

LEAP Campaign Kicks Off

The highest-yet goal -- \$140,000 -- has been set by the 1987 LEAP (Livermore Employees Assistance Plan) committee this year. "We broke all records last year with \$134,000 in pledges," says this year's chairman, Ken Wilson (8347). "And we're really optimistic that Sandia Livermore can do that well -- and a little better -- this year."

Ken anticipates reaching the ambitious goal by involving even more employees in pledging and by increasing the number of Fair Share (0.6 percent of yearly pay) contributions. "We're also asking Sandians to increase their volunteer support for LEAP agencies," Ken says.

"The committee has seen clear justification for increasing [to 29 from 27] the number of local agencies supported, as well as continuing support for the United Way and the California Combined Health Agencies.

"And, for the fourth year, we're including the United Way of San Joaquin County, along with the United Way of the Bay Area, in response to the wishes of the increasing number of Sandians from that county."

Ken notes that the committee's interviews with all LEAP agency applicants, plus on-site visits to a selected number of agencies, reinforced the members' feelings that some good -- and necessary -- work is being done. "There are many worthwhile agencies to support. The money and volunteer time contributed by Sandians are essential to the agencies' success in meeting basic human needs in our communities."

The human service groups approved for assistance this fiscal year include Agency for Infant Development, American Indian Center, Anthropos, Buenas Vidas Youth Ranch, The Center (counseling, education, and crisis services), Centro Hispano, Eden Express, Family Crisis Services, Hope Education Center, Hope Hospice, Horizons Youth & Family Services, Kaleidoscope, Livermore Association for Guidance and Teaching Students (LAGATS), Livermore-Amador Valley Emergency Fund Center, Livermore Playschool, Ministry to the Aged Through Community Help (MATCH), and M-2 Sponsors for Prison Inmates.

Others are New Horizons Nursery School, Northern California Society to Prevent Blindness, Nursery School Scholarship Fund, Nurses Welfare Fund (for needy students), Parental Stress Service, Spectrum (formerly Family Tutorial Program), Tri-Valley Community Fund, Twin Valley Learning Center, and Valley Christian Counseling.

Three new agencies added to the list this year are Livermore Area Recreation & Park District's Extended Student Services (which provides low-cost after-school day care for latchkey children), Room to Grow (an early childhood education center offering a variety of programs for toddlers through nursery school children), and the Suicide Prevention and Crisis Intervention Service of Alameda County (which provides phone lines for suicide prevention and sexual assault counseling, plus therapy and educational programs).

In early summer the LEAP committee began interviewing each applying agency. Last month it made the final decision on which groups to support on behalf of all Sandians. In addition to Ken, members of the committee are: deputy chairman Louie Talerico (8284), past chairman Jim Woodard (8432) Scott Anderson (8153), Shirley Carson (8236), Larry Rahn (8354), Charlotte Acken (8464), Sandra Bowers (8284), treasurer Mel West (8523), publicist Cindy English, artist Stewart Wavell-Smith (both 8535), and administrative assistant Tony Morris (8347).

Sympathy

To Tom Jefferson (8235) on the death of his mother in Madison, Wis., Aug. 28.

Congratulations

To Renee Haynes (8531) and Larry Tehero, a son, Nicholas Haynes, Aug. 29.

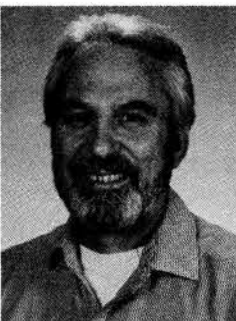
To Kelly and Howard (8511) Royer, a son, Andrew Glen, Sept. 3.

To Sharon (8162) and Travis White, a son, Spencer Kaleb, Sept. 6.

To Christine Yang (8231) and Howard Hirano (8446), a daughter, Cathleen Aiko, Sept. 14.

To Beverly and Bill (8445) Hobson, a daughter, Erin Louise, Sept. 21.

Supervisory Appointment



TED JOHNSON to supervisor of Modification Section 8513-3, effective Sept. 16.

Ted joined Sandia in 1984 as an electrician in Electrical Section 8413-2. He had spent the preceding 30 years as an electrician with Federal Sign & Signal Corporation in Oakland.

His training includes four years of apprenticeship training in inside wiring at Laney College in Oakland.

He and his wife Gail live in Pleasanton. They have three daughters, two of them married, and one granddaughter. Ted's hobbies are hunting and fishing, including diving for abalone.

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DESCRIBING THE UPCOMING LEAP Faire to committee members is chairman Ken Wilson (8347, second from left). Others are (from left) Larry Rahn (8354), Cindy English (8535), Tony Morrise (8347), Scott Anderson (8153), Louie Tallerico (8284), and Shirley Carson (8236).



TAKING A HACIENDA Care Center resident for an outing under the MATCH program is Sandia retiree Ken Finders. Behind him are LEAP chairman Ken Wilson (8347) and Charlotte Acken (8464). Hacienda is one of the 29 agencies assisted by LEAP funds.

Hee Haw Hoedown Headin' Up LEAP

YEEEEEE-HAW!! Shake out yer overalls 'n dust off yer straw hat cuz it's time fer the 1987 LEAP FAIRE "Hee Haw Hoedown!" Thar'll be so much goin' on that yawl'll be busy as a long-tailed cat in a room fulla rockin' chairs!

Always lookin' fer fun ways to draw yer 'tention to the LEAP Campaign, this year's Committee's come up with another good 'un.

'Bout noontime there'll be a run/walk through the Sandia cornpatch. It'll end up in the hayfield (alias the patio over the Computer Center). While jawin' with folks from local agencies 'n United Way, yawl kin hit the vittles — chile dogs 'n

sarsaparilla.

Then it'll be country showtime! Our little pea-pickin' MC, Tony-Ray-Bob Morrise, has dredged up more fun folks than you can shake a corn cob at. Big names lined up fer the Musical Comedy Review include some great talent from them local agencies — a country fiddler from LAGATS, the Kaleidoscope Jug Band, and a coupla pickers 'n gridders from Anthropros and Parental Stress. There'll be contests 'n a raffle too!

Aimin' fer the big bucks (\$140,000), the Committee hopes to git more folks than ever to take part in the campaign. To git in on the raffle,

yawl gotta do the "Fair Share" bit. Could win a belt buckle, T-shirt, hat band, poster, or even Mr. Crawford's parkin' spot fer a month! An' everybody signin' fer a Fair Share gits a chance on a pair of Super Bowl tickets — thanks to Hope Hospice! Ain't thet somethin'?

LEAP Chairman Kenny-LeRoy Wilson (8347) urges yawl to come to the Hoedown, meet the agency reps, an' have a good ole time.

So yawl come — y'hear!!

•Lucinda-Lou English (8535)



SANDIA LIVERMORE NEWS

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Melius Provides Grant for Livermore Science Teachers

Thanks to the generosity of a Sandia Livermore staff member, a \$300 science grant will be given to an outstanding elementary teacher in the Livermore schools each year.

Carl Melius (8357), one of four Livermore Sandians to receive the DMTS (Distinguished Member of Technical Staff) award earlier this year, decided to donate his \$1500 award to the school district to assist in science education.

After meeting with Eva Long, assistant superintendent of Educational Services for the Livermore district, Carl proposed to the Livermore board of education an annual award to recognize teachers for "significant contributions to science education at the elementary level." The board accepted the proposal and has now established the program.

Each year parents, principals, and teachers will be invited to nominate someone "who has developed innovative teaching strategies or special projects, or who has particularly motivated or involved students through the use of the scientific process" to receive the award. The winner will be chosen by the district's Scientific Advisory Board (John Vitko, 8430, and Bob Carling, 8357, are members of that board). The money awarded to the winner will be earmarked for special science needs of the teacher's classroom. (Deadline for this year's nominations is Oct. 15.)

"I'm quite pleased to see the money used in this manner," says Carl. "Teachers will be rewarded for their good work, and, I hope, students in the elementary grades will become intrigued with science and maybe seek careers in the field as I've done."

The school board is looking for additional funding to keep the award program going after the original gift is exhausted.

Carl, an internationally recognized theoretical chemist, joined Sandia in 1972 and moved to Livermore from Albuquerque in 1975.



LEARNING ABOUT BUOYANCY by weighing a rock in air and in water is Jami Saulovich, a student at Rancho Las Positas Elementary School. Her teacher is Bob Scott, science resource specialist. Carl Melius (8357, foreground) has used his \$1500 DMTS stipend to set up an award program for outstanding science teachers in Livermore elementary schools. Behind him is Eva Long, the school district's assistant superintendent for educational services, who helped Carl arrange the award program.

Gas Grills Can Be Dangerous

Lots of Sandians have gas-fired barbecue grills in their backyards. Those grills can be really dangerous.

I learned that at the Coronado Club on a Saturday afternoon late last month. I'd gone over there to take some photos of the Dept. 7810's championship softball team, which was being honored by a picnic for all the department's employees and their families.

None of us was paying any attention to the barbecue grill, which was cooking Danny Baca's (7813) chicken. All of a sudden, Danny shouted and pointed to the grill. Flames were shooting maybe 20 feet out of the hose between the propane tank and the grill itself.

Someone called the KAFB fire department, and a truck arrived in just a few minutes. I took some color photos of the fire before we were asked to evacuate the patio area. And I took some black-and-white photos after the fire was finally put out.

I talked later with Asst. Fire Chief John Ortega, Captain Onesimo Sanchez, and Lt. Frank Sanchez, who headed the first unit to arrive on the scene. With all the evidence pretty well burned up, it's hard for them to be sure, but they think that there was an accumulation of hot grease in the bottom of the grill. It leaked out through a crack or maybe a rust spot and spilled on the rubber hose.

The grease may or may not have been on fire at that point, but, one way or another, the hose broke. Now gas was shooting out of the hose, and it took just a second for the gas to get ignited by the burners in the grill. That's what we all saw.

"The worst case here would have been a BLEVE, a 'boiling liquid expanding vapor explosion,'" Frank told me a few days later. "That could easily have occurred if the flame shooting out of the hose had been directed right on the other pressurized propane tank. That tank would have become a bomb."

It's true that most home barbecue grills have only one tank, so the danger of a BLEVE is not as great as it was with two tanks. But, believe me, those flames were scary.

Here's what the KAFB fire people list as precautions against a fire like this in your backyard:

- Precheck all the connections — and the hose quality — before you light your grill; hoses can "dry rot" quickly if they're exposed to sunshine.
- Clean up any accumulation of grease in the bottom of your grill; again, do it before you light the burners.
- And keep a dry-chemical fire extinguisher handy — and know how to use it. ●GM



EXAMINING THE GAS GRILL HOSE that broke and spewed burning propane during a picnic at the Coronado Club are Capt. Onesimo Sanchez (left) and Fire Chief John Ortega of the KAFB Fire Department.

Chicken Fat: Snake Oil of the 80s?



Chicken soup, that miraculous elixir beloved of Yiddisher Mommas, was famous for its curative powers long before the discovery of penicillin. Now, one of its main ingredients could be used to study the causes of cancer, aging, and the treatment of the skin disorder, psoriasis. Swiss chemists have found that the fat in chicken soup mimics the way that reactive chemical fragments, called free radicals, are generated in living cells.

New Scientist

Take Note

A paper written by Larry Pope and Diane Peebles (both 1834), "In Situ Examination of Segregation and Wear Processes of Precious Metal Electrical Contact Alloys," received the Prize Paper Award at IEEE's Holm Contact Conference in Chicago on Sept. 20-23. Larry and Diane are the first Sandians to receive this award. The award presentation is based on a paper's originality and importance to the field of electrical contact, the clarity of writing, and the quality of oral delivery.

* * *

Lee Bray (30) will talk about the 1987 United Way Campaign on "Nuevo Mexico USA" with Julia Gabaldon (3523) on Oct. 18 at 8 a.m. on Channel 7. Lee is the 1987 United Way Campaign Chairman.

* * *

Sandia retiree Craig Hudson has several pieces of his art work on science phenomenology on exhibit at the Art and Science Exhibition 1987 (Fine Arts Gallery at the Fairgrounds). The exhibition of art based on science is open 10 a.m.-6 p.m. Sun.-Fri. and 10 a.m.-9 p.m. Sat. until Oct. 23. For more information on the exhibit, call 265-1791, ext. 228.

* * *

The Women Concerned About Smoking Coalition will present a one-day conference, "An Accepted Addiction: Women and Smoking in New Mexico," on Nov. 12 at Reddy's Rendevous Room (PNM, Alvarado Square, 4th & Silver) from 8:30 a.m. to 4 p.m. The all-day workshop addresses issues related to the effects of smoking on women: why women smoke, tobacco advertising, politics, work-site issues, and prevention strategies. The \$15 registration fee includes lunch and materials. For information, contact Annemarie Rudy on 262-2333.

* * *

Tune in to the "Harmonies for Hospice" concert presented by the New Mexi-chords Oct. 11 at First United Methodist Church (4th & Lead SW) at 4 and 7 p.m. Proceeds benefit the Hospice Patient Care Fund at Hospital HomeCare. Tickets (\$7) are available at the door or by calling Hospice on 842-7108. Hospice is a program of medical and nursing care and emotional support for patients with life-limiting illnesses and for their families.

* * *

It's only eleven weeks until Christmas. Check the craft items available at the Los Novicios Christmas Craft Show on Oct. 23-25 from 10 a.m. to 8 p.m. (10 a.m. to 6 p.m. Sun.) at the Albuquerque Convention Center. Admission is free. Sale proceeds benefit the Albuquerque Christian Children's Home.

* * *

Retiring and not shown in LAB NEWS photos: Joe Holcomb (3414), George Martin (2854), Kelly Montoya (2630), Preme Ulibarri (7535), Thomas Witherspoon (7241), Charlie Blaine (2336), Robert Wehrle (2522), Richard Johnson (2833), Harry Rouckus (2851), and Mae Lovelace (7476).

Medical Corner

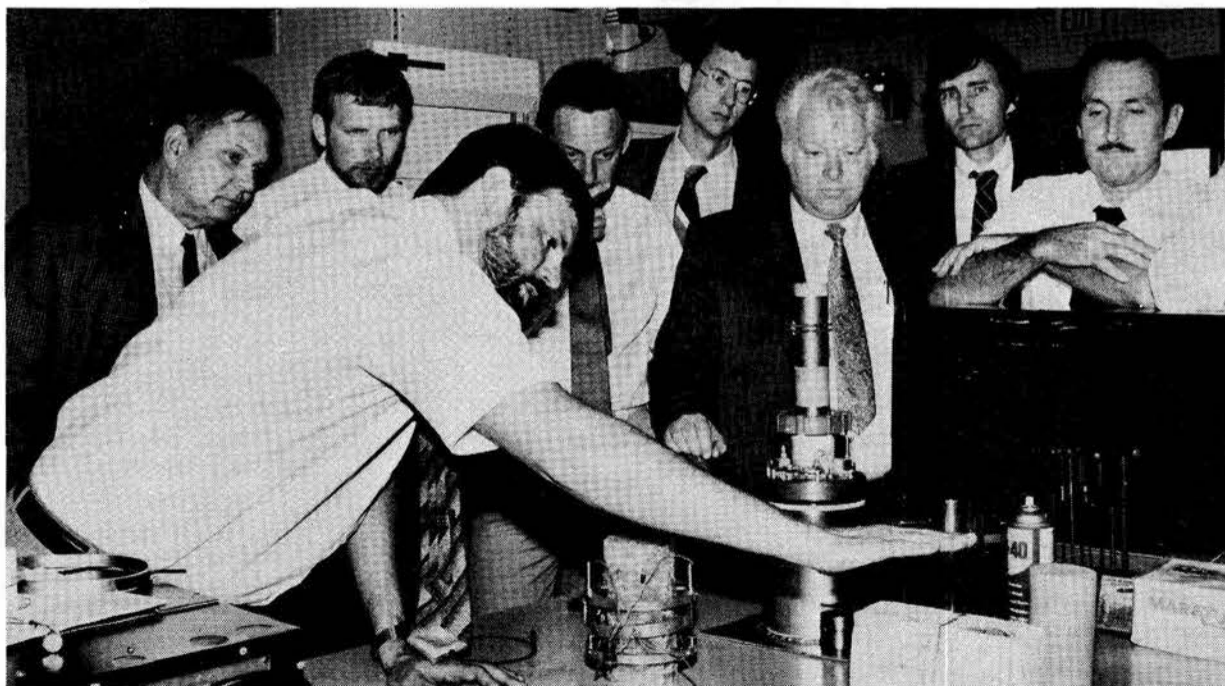
Insulin-Dependent Diabetics Needed

David Schade, M.D., UNM School of Medicine, is looking for diabetics to take part in a seven-year study to determine whether intensive insulin therapy will prevent diabetic complications.

The patients must: be between 18 and 39 years old; have been a diabetic for one to 15 years; be taking one or two injections of insulin per day; and be in good general health without major diabetic complications.

Study participants will receive free medical care, including supplies such as insulin syringes and glucometers.

If you qualify and are interested, please call Dr. Schade's nurse coordinator, Joyce Rich, at 277-1200.



SCIENTISTS AND MANAGERS from Phillips Petroleum and industry partners of the Ekofisk Field (an oil field located in the Norwegian sector of the North Sea) visited the Labs recently for discussions related to a Sandia/DOE cooperative research program with Phillips. Program objective is to study and model deformation and permeability of fractured reservoirs; one discussion topic was *in situ* stress measurements at Ekofisk. Citizens of five foreign countries (Great Britain, Norway, Portugal, France, and Italy), as well as Phillips officials from the U.S., were in the group. Here, they're touring the Rock Mechanics Laboratory, where Lawrence Teufel (6232, foreground) describes an experiment on the relief of residual strain in a block of tuff from G Tunnel at Nevada Test Site.

Employee Awareness Is the Key

Those at Sandia directly involved with emergency response teams agree that employees can help tremendously by simply being alert to hazards around them that may eventually lead to emergencies.

Besides knowing those emergency phone numbers and how to use them (see main story), employees can assist in other ways. For instance, fire protection engineer Vern Duke (7862) points out that employee awareness of fire hazards is very important.

Vern suggests, "Be on the lookout for exit obstructions, improper storage of flammable liquids or other combustibles, inoperative fire fighting equipment, or piles of junk and paper — especially in basement areas — and tell your supervisor about them."

In case of a medical emergency in their area, employees can help in several ways, Dr. Larry Clevenger (3320) explains. "When you make the 144 call, be ready to provide all the necessary information you can readily obtain," says Larry. That information includes: nature of emergency, name of victim(s), location, status of victim, name of caller, phone number, and known medical problems (see "Can't Trust Your Memory?").

"Once the call is made," continues Larry, "it's very important — if Security isn't there yet — to assign someone to direct the medical response team to the proper location once it arrives on site."

Larry also encourages employees who haven't done so to get CPR (cardiopulmonary resuscitation) training, offered weekly by the Medical organization. "We respond promptly," he says, "but even so, there can be a three- to five-minute time lag in Area I. CPR by a qualified person could save a life." Medical's goal is to eventually train one out of every four employees in CPR.

Employee awareness is a key to avoiding ES&H emergencies, says Bill Burnett (3310). "Sandians can help a great deal if they keep an eye out for potential problems," Bill says. "If people spot an environmental, health, or safety problem in their work area, they should alert their supervisor immediately."

People are naturally curious when they see emergency vehicles traveling through their area, comments Bill Wolf (3434). "But please, please don't call Security to find out what's going on," he says. "Not only do you tie up phone lines; you also tie up the time of someone who has other things to do."

"If you're near the scene of an emergency, follow Security instructions," Bill continues. "Evacuate the building if asked to do so; secure classified material first — or take it with you if there isn't time to lock it up."

"Serve as extra eyes and ears; if you're aware of hazards that the OSC should know about, tell him or her by way of the nearest Security Inspector."

Health Physics Div. 3312 (George Tucker) responds to radiation emergencies. The division's special emergency gear includes detectors to measure possible external radiation, tritium detectors, and protective clothing. "We also carry along stands, rope, and warning signs, in case we have to cordon off an area," says George.

If it's necessary, George and his division people can also call on the 7800 directorate (Plant Engineering) for assistance with shielding and contamination control.

George and several of his people are headquartered in Area V, home of Sandia's research reactors and, therefore, the most likely site of a radiation emergency. "Area V has its own emergency plan," explains Bill Burnett, "and the in-residence health physicists are an integral part of it."

Disposal of radioactive and chemical wastes — including oil — is handled by Environmental Protection and Hazardous Waste Management Div. 3314 (Gordon Smith). Gordon and his people also respond to incidents involving spills of chemicals and toxic materials. Along with Plant Engineering and the Base fire department, they figure out how to handle spills in a safe way that minimizes environmental impact.

People in Safety Engineering Divisions I and II 3315 and 3316 (Dick Doyle, Don Rost) head for the scene when emergencies involve explosives, electrical, and pressure system problems, or there's been a traffic accident.

Assistance from Plant Engineering

In case of emergency, people and special equipment from Plant Engineering 7800 are available to assist. For example, Maintenance has an aerial bucket truck with a 90-ft.-high reach that can provide access to the roof of any existing or proposed facility at SNLA.

Maintenance people in Plant Utility Systems Div. 7811 respond to all fire alarms during regular or nonoperational hours and can communicate to the HCC in Bldg. 801 or to the Base Fire Department central control room. "We're responsible for assisting the Fire Department, resetting alarms, and general troubleshooting," says 7811 supervisor John Cerutti.

During nonoperational hours, the Central Monitoring System (CMS) mechanic at the Central Steam Plant responds to all trouble calls — fire, security, facility operations, water leaks, and utilities (electric, steam, gas, water, communications). The Central Steam Plant operates 24 hours a day, 365 days a year; three Steam Plant operators rotate as CMS shift mechanics.

When necessary, additional maintenance support people are on call during nonoperational hours to handle critical equipment or system operational problems.

"Our emergency response program has one major objective," says Duane Hughes, supervisor of Emergency Preparedness, Security Operations Training Division 3438. "It's to minimize adverse effects of an emergency on people, property, and the environment. Emergency response teams play a key role; they're on call to respond immediately if needed." ●PW

(Ed. Note: This is another in a series of articles on Sandia's emergency preparedness program.)

Welcome

Albuquerque
Marsha Davalos (3745)
California
Cecilia Walsh (1812)
Kansas
Isaac Evans (7261)
Pennsylvania
Heather Wild (7223)

Congratulations

To Catherine Hoven (2813) and Ron Rosul (EG&G), married in Albuquerque, Sept. 5.
To Karen Radtke and Paul Veers (1524), married in Belmont, Calif., Sept. 5.
To Ann (7262) and Leroy Mahkee, a daughter, Jennifer Marie, Sept. 16.
To Winola and Chris (7818) Saavedra, a daughter, Kristi Lynn, Sept. 21.
To Regina (7231) and Ralph Melbourne, a son, Ralph Christopher, Sept. 25.
To Linda (5210) and Gilbert (2543) Benavides, a son, Nicholas Lell, Sept. 28.

Sympathy

To Paul Lemke (2642) on the death of his father-in-law in Michigan, Sept. 20.
To Berweida (3521) and Lacey (3428) Learson on the death of her father and his father-in-law in New Orleans, Sept. 28.

(Continued from Page One)

Response Teams

3310, headed by Bill Burnett, stands ready to help. Primary concerns, according to Bill, are the health and safety of employees working with toxic materials, radiation sources, pressure and vacuum systems, explosives, electrical apparatus, or vehicles.

"Protection of the environment — which gets much public attention these days — is also one of our major objectives," says Bill.

If employees see problems-in-the-making in any of these areas and don't know whom to call, Bill suggests they contact their organizations' safety consultants in Safety Engineering Divisions I and II (3315 and 3316, respectively), as well as their Sector Chief. "Safety's a kind of clearinghouse," says Bill, "and refers problems to the proper people in 3310."

Security, when it receives a 144 emergency call related to ES&H, calls Bill's office. Bill then notifies appropriate specialists in the department and sends them to the scene. In Bill's absence, any of the division supervisors in 3310 are ready to respond: "We always make sure there's a supervisor on premises," he says.

Who goes to the scene of an emergency depends on the nature of the incident. Industrial Hygiene/Toxicology Div. 3311 (Don Parker, supervisor) responds to health emergencies involving chemical spills, toxic materials, microwaves, lasers, or poor ventilation in confined work spaces.

"We have a variety of special equipment," says Don, "including portable monitoring equipment — gas meters, equipment to measure vapors, and detector tubes. The evaluation equipment we use on site helps us determine the size of the problem." Don's group is also equipped with protective clothing, respirators, even Scott Air-Paks like the firemen wear.

Bats, Rattlesnakes, and Fleas

Biological hazards are another concern of Don's division — things such as contamination of the water supply or food-borne illnesses. "We've also dealt with some less likely problems," says Don. "Would you believe rabid bats, rattlesnakes in the tech areas, or fleas in Area II?"

Can't Trust Your Memory?

If you don't want to trust yourself to remember 144 and 117 — especially when you're amidst an emergency — then contact Div. 3438 (preferably in writing) and ask for the phone sticker shown here:



FIRE EMERGENCY

dial dial
117 144

Another sticker listing the information you'll need if you call in a medical emergency is also available from 3438:

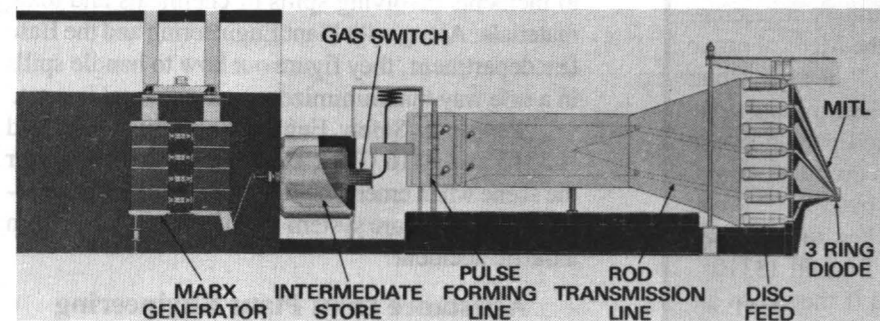
IN CASE OF MEDICAL EMERGENCY

Dial 144

Information Needed:

- Nature of Emergency
- Name of Victim(s)
- Location
- Status of Victim
- Name of Caller
- Phone Number
- Known Medical Problems

Saturn



SKETCH ABOVE shows typical power transmission flow from Marx generator to the diode inside the insulator stack in Saturn's center. The generators are submerged in oil; the intermediate store capacitors, gas switches, pulse-forming lines, rod transmission lines, and disc feeds are all submerged in water. Below, cut-away sketch shows Saturn's insulator stack, which contains conical triplate MITLs (here called radial MITLs), the diode (the cathode/anode device where the X-rays are produced), and the exposure bay (the area here containing a vacuum voltage monitor). The cylindrical stack is about 8 feet tall and about 6.5 feet in diameter.



A FOREST of triplate transmission lines — and Larry Choate (1233).



DURING SATURN CONSTRUCTION, Jim Powell (1230) surveys progress in converting PBFA I into the new X-ray-producing accelerator.

cations Div. 1233 and a member of the Saturn project team, "it provides a good simulation of a bomb's X-ray spectrum and pulsewidth."

"So it [Saturn] substantially improves our ability to test weapon systems in radiation-threat environments above ground," adds Jim. "Our above-ground test of weapon components and subsystems will have better simulation fidelity than has ever before been possible in above-ground testing."

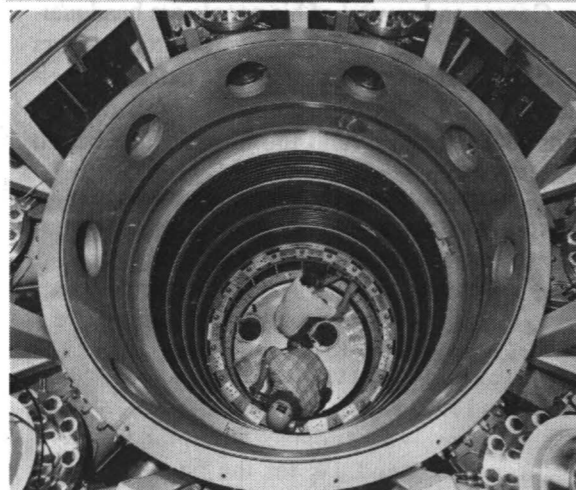
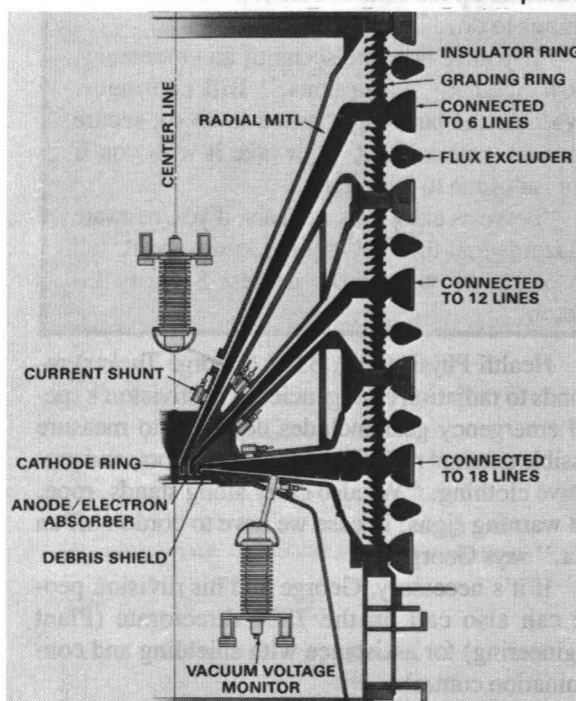
And fourth, Saturn's flexible. "It's designed that way," Larry continues. "In effect, you can 'dial-a-spectrum' of X-ray radiation. By that I mean that we'll be able to configure Saturn in several different ways to tailor its output to the needs of Sandia's sample testers."

The new accelerator will, then, do more than complement X-ray effects tests. In future tests, it will allow materials samples to be exposed to proton beams, which have an energy deposition similar to soft X-rays but which produce higher-intensity fluences; such fluences can damage materials. It will also allow gas-puff experiments in support of Sandia's work on a pulsed-power-driven laboratory X-ray laser.

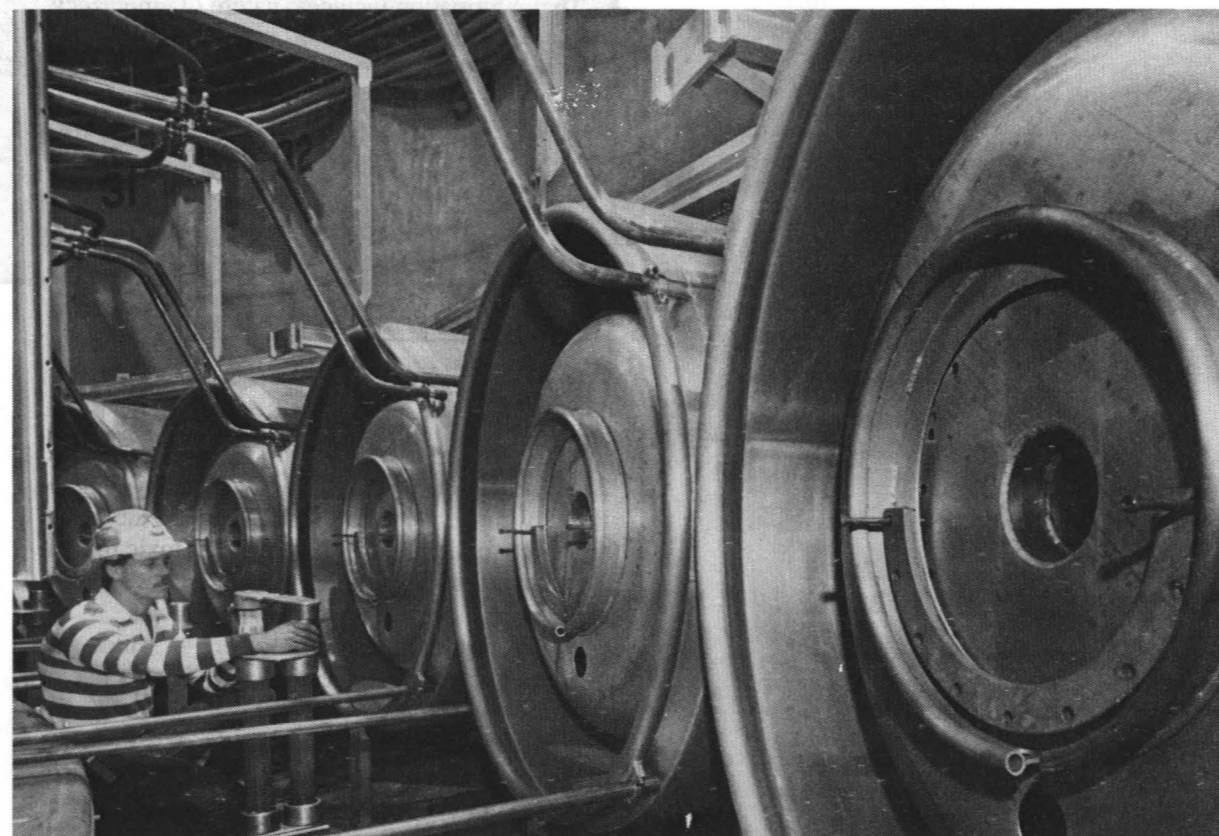
Saturn also expands Sandia's capabilities in other areas. It will be used in designing and developing future weapons systems and for evaluating weapons in stockpile, and it should prove valuable in assessing the survivability of SDI space systems to nuclear countermeasures.

Team Achieves 'Totally Unprecedented' Success

"When you bring a large accelerator on-line, something usually goes wrong," Pace points out. "But with Saturn, the process went smoothly. The radiation came in just as predicted — and that has



INSULATOR STACK, with two technicians adjusting components inside it. Several vacuum pumps are visible outside the stack.



THEY'RE NOT KEGS — they're intermediate energy storage capacitors. There are 36 of them, and they store, for a few microseconds, the energy out of the Marx capacitors before gas switches (later installed in the center hole of each "keg") send the energy to the target. Robin Broyles (Ktech) has his hand on a dummy load used to test the gas switches.

to be as rare as a hole-in-one on the golf course. There's just no question in my mind but that a super-power accelerator that does perfectly on its first shot is totally unprecedented.

"And that level of performance is a tribute to the talent and the effort of the people who made it happen — the project team," Pace continues.

"It's one of the smoothest projects I've ever been a part of," adds Jim. The Saturn project team included experts in pulsed-power physics, of course, but it also included experts in project management out of Jim Furaus's Project Management Div. 7866 and strong support from Pulsed Power Engineering Div. 1251, Purchasing 3700, and contractors from Ktech.

"Ken Hanks [7866 and the Saturn project manager] pulled the team together following the process and techniques that we used successfully in designing and constructing PBFA II," notes Gerry Barr, manager of Plant Engineering Planning and Services Dept. 7860.

"We had no room for mistakes that would cost us either time or money," adds Jim. "So we had a lot riding on that first shot — and none of us knew

(Continued on Next Page)

Phoenix from the Ashes

Hello, Saturn; Good-Bye, PBFA I

Saturn is, according to Jim Powell (1230), "a Phoenix rising out of the ashes of PBFA I." The transition from PBFA I (Particle Beam Fusion Accelerator) to Saturn really began about four years ago when it was realized that Sandia's first large particle-beam machine would be replaced by PBFA II in 1986.

The project team began the process of converting PBFA I into an X-ray-producing accelerator in February 1986 and completed that task last June. The task included significant upgrades in the energy-storage and pulse-forming sections of PBFA I. The 36 capacitor banks were replaced by higher-rated capacitors of the same dimensions, which essentially doubled the stored energy at a given voltage.

And the 36 long MITLs [magnetically insulated transmission lines] that provided power flow to the central ion diode on PBFA I were replaced by 36 vertical triplate water transmission lines. (The PBFA I MITLs plus the PBFA I target chamber are now the "Starburst" sculpture in Area IV.) Thirty-six conical triplate MITLs are used to transfer power from the outer edge of the insulator stack to the three-ring diode (see sketches).

The insulator stack at the center of the tank serves to separate the water transmission lines from the conical triplate MITLs needed to transfer power

in the vacuum chamber (a vacuum is necessary to accelerate electrons to high voltages).

After the conversion, Saturn underwent a series of pre-operational shakedown tests that ended with the full downline pulsed power test on Sept. 18.

"That first shot was at a third of its maximum power," says Larry Choate (1233), "and the second one, last week, was at half power. If all goes well, we expect to be at design power by January."

"The conversion makes Saturn a real bargain," notes Jim Powell. "If we'd had to build it from scratch, construction costs would have run about \$40 million. We brought it in for about \$7 million. That's a heck of a deal."

"A plug here," Jim adds. "The conversion really demonstrates the flexibility of pulsed power."

The preliminary design for the PBFA I-to-Saturn conversion was done by Jim Lee (1231), Doug Bloomquist (1252), and Regan Stinnett (1264) with the assistance of Pulsed Sciences, Inc., which has recently become a division of Titan, Inc. — the company with which Gerry Yonas is now affiliated; Gerry was director of Pulsed Power Sciences 1200 when PBFA I came on-line early in 1980.

Ringed Like the Planet

How Saturn Works

Saturn is a 96-foot-diameter 36-module accelerator. Its 36 pulses converge on a novel central diode that consists of multiple concentric rings — like its namesake, the planet Saturn.

At the bottom of the diode is a disk-shaped plate supporting a heavy-metal foil where electrons from Saturn's 36 capacitors are converted into X-ray radiation. The X-rays enter an exposure bay beneath the diode and permeate the items being tested.

The diode is novel in that it has three cathodes (negative electrodes) and four anodes (positive electrodes). The accelerator's power flow is divided so that, of the 36 Marx capacitor banks and transmission lines, 18 feed the outer cathode ring, 12 the middle ring, and 6 the inner ring. The rings, then, receive 50, 33, and 17 percent, respectively, of the power flow.

This division of current provides a very uniform radiation profile a short distance behind the converter, where accelerated electrons strike a tantalum target to produce *bremstrahlung* (German for "braking") radiation.

In more detail, the accelerator works like this: The capacitors are charged in parallel and discharged in series — slow charge, fast discharge. The discharge accelerates electrons to high voltages and currents and causes them to strike an electron-to-photon converter made of a heavy element like tantalum. Each time an electron strikes a high-Z atom, it loses energy and changes direction, thereby releasing a photon of *bremstrahlung* radiation.

These *bremstrahlung* photons are very similar to the X-ray photons released in a nuclear explosion, but the radiation disappears instantaneously with the machine pulse and cannot contaminate the laboratory or the surrounding area.

Saturn is designed to produce an X-ray dose rate of up to 5 trillion rads per second for a very brief period — 15 to 20 billionths of a second, the time it takes light to travel 15 to 20 feet. This provides a peak dose of 100,000 rads. (These figures are for absorption by the element silicon, the semiconductor material used in nearly all modern electronic systems.)

These levels are four times greater than possible with Sandia's second-most-powerful X-ray simulator, Proto II, and ten times greater than those produced by the machine Sandia used for X-ray simulation before Proto II came on-line in 1985.

Saturn is designed to carry out as many as three radiation shots per day. "And, given the success of its first two shots [a second shot took place Sept. 30], we think it will make that goal," says Jim. The first weapon subsystem to be tested in Saturn is the Sandia-designed AF&F (arming, fuzing, and firing) system for the Trident II reentry vehicle.

pulsed power expert who served as project scientist. And John Boyes (1251) was the project leader for mechanical design; he coordinated the work of the engineers involved.

Others who played key roles include Jim Lee (1231), Mark Hedemann (1233), Regan Stinnett (then 1248, now 1264), and Art Sharpe (1233). Along with Doug, they were responsible for the research and physics tech base on Saturn. Jim and Mark did the diode and testing application research and design; Doug, Art, and Regan, the accelerator pulsed power and power flow research and design. Art also headed the Saturn assembly team.

Saturn's key element, its multiple ring diode, was developed in research on Sandia's SPEED accelerator and Proto II X-ray simulators by Chuck McClenahan (1233) and Mark Hedemann.

●BH/Ken Frazier (3161)

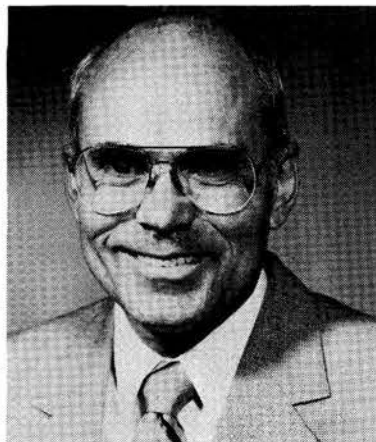
Events Calendar

- Oct. 9-10 — New Mexico State Finals Rodeo; 7 p.m. Fri., 1 & 7 p.m. Sat.; Horsemen's Arena, NM State Fairgrounds, 864-6624.
- Oct. 9-11 — Autumn Exhibition, Albuquerque Artists Assn.; 10 a.m.-8 p.m. Fri., 10 a.m.-9 p.m. Sat., 10 a.m.-5 p.m. Sun.; Exhibition Hall, NM State Fairgrounds, 268-8644.
- Oct. 9-11 — "Courts and Cathedrals," Musica Antiqua de Albuquerque, sacred music from medieval and Renaissance Spain; 8:15 p.m. Fri., 4 p.m. Sun.; St. Thomas of Canterbury Episcopal Church (425 University NE), 842-9613.
- Oct. 9-18 — "Antigone," classic Greek tragedy set in South Africa; 8 p.m. Fri. & Sat., 6 p.m. Sun.; Vortex Theatre, 247-8600.
- Oct. 9-27 — Exhibit, figures and Pueblo weaving by Lucy Yepa Loudon of Jemez Pueblo; 9 a.m.-6 p.m., Gallery, Indian Pueblo Cultural Center, 843-7270.
- Oct. 9-28 — Exhibit, "Contemporary Women Artists" (opening reception 5-7 p.m. Oct. 9); Gallery, South Broadway Cultural Center, 848-1320.
- Oct. 9-Nov. 8 — Exhibit, "Judith Golden: Myths and Masquerades," 9 a.m.-4 p.m. Tues.-Fri., 5-9 Tues. evening (gallery talk & reception, 2 p.m. Nov. 1); UNM Art Museum, 277-4001.
- Oct. 9-Nov. 13 — Exhibit, "Works on Paper, 1930-1986," by William Lumpkins; 9 a.m.-4 p.m. Tues.-Fri., 5-9 Tues. evening; Jonson Gallery, 277-4967.
- Oct. 10 — "Florincanto," traditional Mexican folk dances and mariachi music performed by folk dance troupe from Los Angeles; 7:30 p.m., Albuquerque Little Theatre, 848-1320.
- Oct. 10 — Exhibit Opening, "Daughters of the Desert: Women Anthropologists in the Native American Southwest 1880-1980," reception features music by Bayou Seco with Cleotes Ortiz, the Rudy Ulibarri Dancers; 1-4 p.m. (1:30 p.m. lecture), Maxwell Museum of Anthropology, 277-4404.
- Oct. 11-Dec. 6 — Focus Photo Series: Douglas Kent Hall photographs; 10 a.m.-5 p.m. Tues.-Fri., 1-5 p.m. Sat. & Sun.; Albuquerque Museum, 243-7255 or 242-4600.
- Oct. 13 — Concert, UNM Orchestra; 8:15 p.m., Popejoy Hall, free, 277-3121.
- Oct. 14-15 — Victoria Marks Performance Company, modern dance; 8 p.m., KiMo Theatre, 848-1374.
- Oct. 16 — "Daughters of the Desert" Symposium, leading women scholars present new research on Southwestern issues, anthropologists portrayed in the exhibit at Maxwell Museum (see Oct. 10) discuss their research and careers; 9 a.m.-5 p.m., Indian Pueblo Cultural Center auditorium, free (registration required), 277-4404.
- Oct. 16 — Slide Show/Lecture: "From Harvey Girls to Couriers: Women's Role in Creating and Popularizing the Southwest," by Marta Weigle, UNM Chairperson of American Studies and professor of anthropology; 7:30 p.m. (reception following lecture), free, Maxwell Museum of Anthropology, 277-4404.
- Oct. 16-17 — Classical Concert II, New Mexico Symphony Orchestra, conducted by Neal Stulberg, guest violinist Joseph Silverstein; 8:15 p.m., Popejoy Hall, 842-8565 or 277-3121.
- Oct. 16-17 — "Orinoco," comic play about two over-the-hill showgirls alone on a river boat, featuring Carmen Zapata, play is in English on Fri. and Spanish on Sat.; 8 p.m., KiMo Theatre, 848-1374.
- Oct. 18 — Fall Concert, Albuquerque Philharmonia Orchestra, conducted by Willy Sucre; 3 p.m., KiMo Theatre, 265-0283.
- Oct. 18-24 — International Arabian Championship Horse Show; 8 a.m., 1:30 & 7 p.m.; NM State Fairgrounds, 243-3696 or 265-1791.
- Oct. 19 — UNM Guest Artist Recital, classical guitarist Adam Holzman; 8:15 p.m., Keller Hall, 277-4402.
- Oct. 20 — Opening Concert, Chamber Orchestra of Albuquerque, guest cellist Claudio Jaffe; 8:15 p.m., St. John's United Methodist Church (2626 Arizona NE), 881-0844.

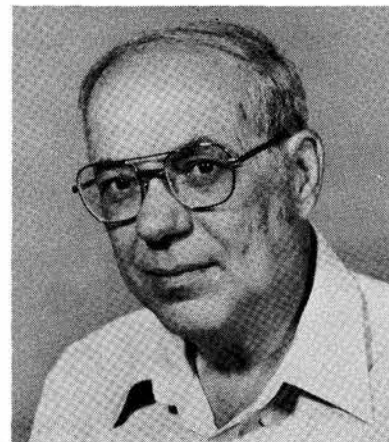


NEXT TIME you're driving on Wyoming west of Bldg. 800, check out the new sign (here getting a dusting by Ward Hunnicutt, Director of Plant Engineering 7800). The new sign, slipped into place over the old one, is a scaled-up replication of Sandia's official logo.

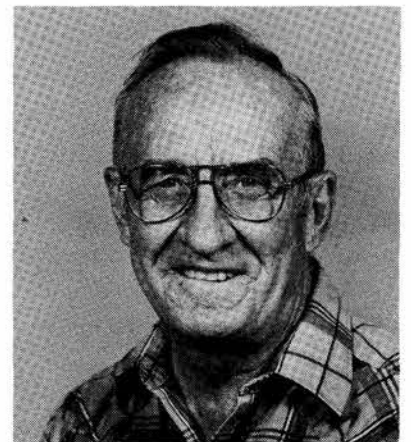
Retiring



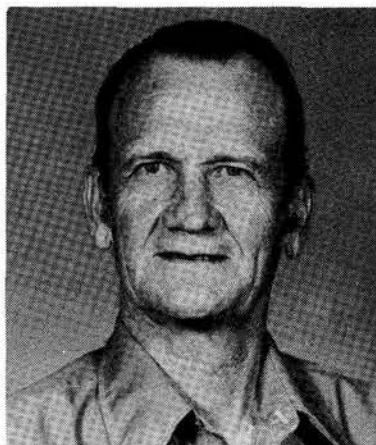
Waylon Ferguson (3150) 37 yrs.



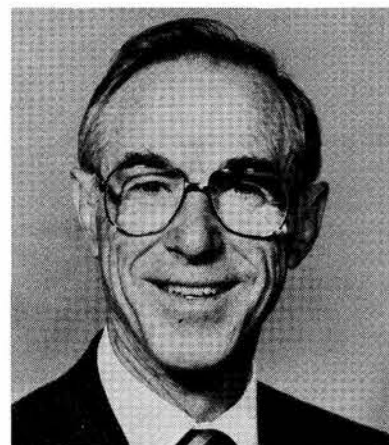
Saul Skolnick (2531) 18 yrs.



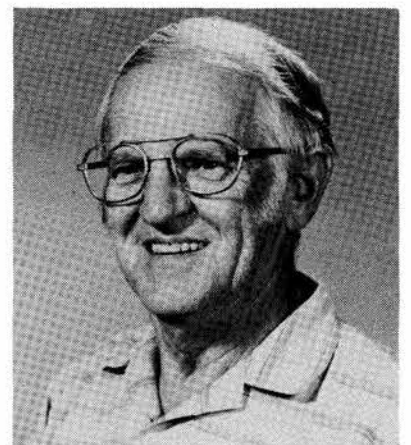
Loren Blakely (3742) 35 yrs.



Vernon Smith (3154) 30 yrs.



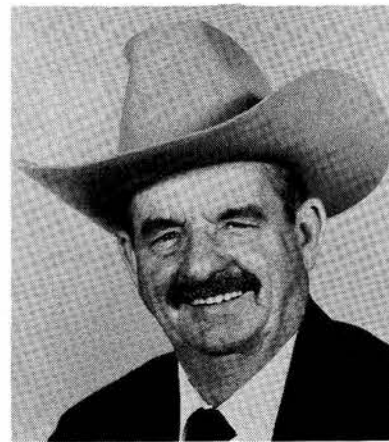
Dolly Dollahon (3723) 30 yrs.



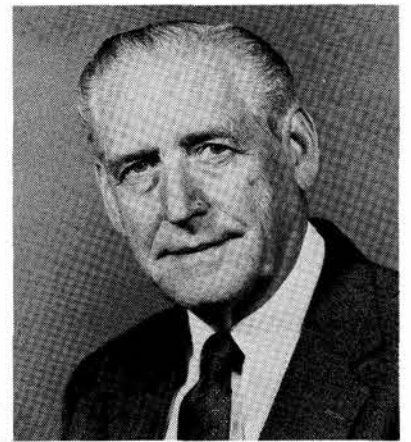
Ed Newman (7241) 38 yrs.



Carl Johnston (5113) 28 yrs.



Charles Randall (3425) 31 yrs.



Lloyd Fuller (3740) 36 yrs.

Oct. 21 — Choirfest, choral concert sponsored by UNM, conducted by John Clark; 8:15 p.m., First United Methodist Church (4th & Lead SW), free, 277-4402.

Oct. 21-Nov. 1 — "Holiday," New Mexico Repertory Theatre production of screwball comedy by Philip Barry; 8 p.m. Tues.-Sat., 2 p.m. matinee Sat. & Sun.; KiMo Theatre, 243-4500.

Oct. 22-24 — "Back-Up," UNM Dept. of Theatre Arts dance production; 8 p.m., Rodey Theatre, 277-4402.

Oct. 24 — "Death Comes to the Archdirector," Friends of Albuquerque Little Theatre fund-raiser, original murder mystery by Kathryn Gabriel (audience participates in solving mystery); 8 p.m., Albuquerque Little Theatre, 242-4750.

Sandians on AT&T's Medal-Winning Relay Teams

AT&T called and Sandians went — to the U.S. Corporate Athletics Association National Track Championship in Cambridge, Mass., on July 25 and 26, where AT&T beat defending champ General Electric.

Twelve Sandians were selected from the data base AT&T keeps on track and field athletes from around the country. The Sandia Laboratories Track and Field Club holds Corporate Cup Regional Meets in May. Results from this event are entered into the national data base used to select the AT&T National Team.

Seven Sandians helped AT&T win on medal-

winning relays. AT&T scoring included six gold medals, three silver medals, and two bronze medals.

Sandia participants and their events included: Roger Assink (1812), sprint relay; Richard Cernosek (7555), team shot put; Jim Garsow (9211), sub-master's distance relay; Becky Hunter (9000), 5K and 10K road races; John Kelly (6454), team jump; John Otts (6222), team shot put; Jim Reitz (8464), 5K and 10K road races; Bonnie Roudabush (9112), 5K and 10K road races; Kay Schoenefeld (6452), sub-master's distance relay; Tina Tanaka-Martin (7112), sub-master's sprint relay; Larry Walker (9222), executive relay; and David Womble (1422), distance relay.

WITH SMILES OF SATISFACTION, members of the Sandia contingent on the AT&T national team at the USCAA National Track Championship gather for a photo. Left to right: Kay Schoenefeld (6452), Tina Tanaka-Martin (7112), Larry Walker (9222), Becky Hunter (9000), David Womble (1422), Jim Garsow (9211), Richard Cernosek (7555), and Roger Assink (1812). Not pictured: John Otts (6222), John Kelly (6454), and Bonnie Roudabush (9112).



JOHN KELLY (6454) makes his leap in the team jump event.



THE HIGHBALLERS took first place for the season and the end-of-the-season tournament in the Sandia Women's Softball Association. The team has finished first in five out of the six years that the women have been in the league. The team scored a total of 442 runs for the season, which is 72 more runs than the highest-scoring men's team. First row, left to right: Pam Leslie (1813), Vicki McConnell (1543), Martha Bass, and Donna McConnell (5249). Second row: Judy Abeita-Chavez (3743), Diana Silva (7522), Pattie Salas, Maxine Gallegos, Anita Caress (1833), Renae Dietz (6410), and Ruth Varga (3150). Third row: Coach Ken Varga (2542), Mary Mercado, Coach Marc Polosky (2542), Karen Claghorn, Mary Gardner, and Coach Eddy Martinez (1832).

Fun & Games

Feet Across America — Feet Across America marched on to Alaska, tramped around Mt. McKinley, and headed to Seattle, Wash. As of Oct. 1, the number of miles walked was 9064, shattering the goal of 5000 miles.

* * *

Duke City Marathon — Although other organizations took up the challenge, no one beat Medical's record of per capita participation. The top five were: 3300, 10.39 percent; 5100, 5.66 percent; 1200, 3.69 percent; 6300, 3.49 percent; and 2600, 2.17 percent.

Special mention goes to Larry Johnson (DMTS, 5123). He cajoled 10 out of 13 people in his division to enter the marathon. None of the others had any competition experience.

* * *

Rugby — The nationally ranked Albuquerque Aardvark Rugby Club will host the 16th Annual High Desert Classic Rugby Tournament on Oct. 10 and 11 at Bullhead Park. Anyone interested in playing should contact Fred Harper (6413) on 6-1975 or Steve Rivera (3434) on 4-4277. The Aardvarks practice Tuesdays and Thursdays at Aardvark Park southeast of the UNM Football Stadium.

* * *

Square Dancing — The Ponderosa Promenaders Square Dance Club starts beginner lessons tonight at St. Luke's Church (9100 Menaul NE) at 7:15 p.m. The first three weeks are free. Bring your partner and join the fun. Call Tom Glauner (2342) on 299-0277 or Pete Makarenco on 293-6482 for more information.

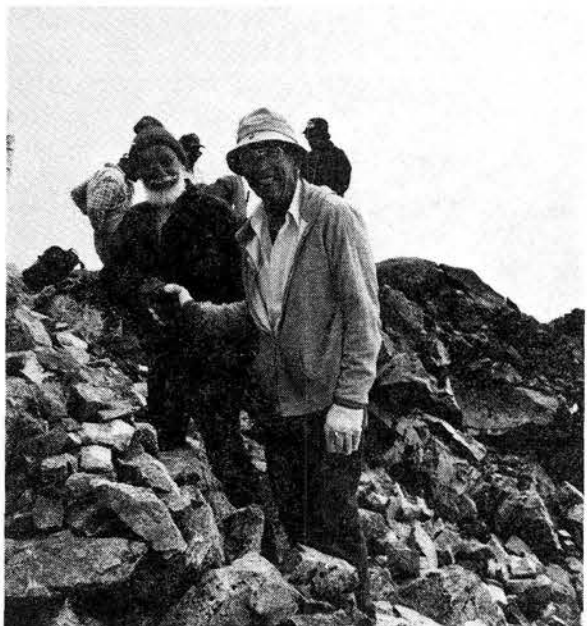
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Tennis — Results of the STA Labor Day Weekend Tennis Tournament — Men's A Singles: Aaron Williams defeated Tom Mehlhorn (1265). Men's B Singles: Elmer Klavetter (6313) defeated John Stichman (2330). Women's Singles: Shannon Longmire defeated Joan Gentry. Men's A Doubles: Jim (7555) and Bruce Solberg defeated Mark Tucker (7544) and Ken Hanks (7866). Men's B Doubles: Pat Fleming



WITH A TIME OF 35.16 MINUTES, URSULA BESSE (3426) took home a gold medal for placing first in the Women's 5K Brisk Walk event in the Duke City Marathon on Sept. 27. This was Ursula's first competition, although she's walked for exercise for many years.

and Randy Smith defeated Dick Schlimme and Jay Odom. Mixed Doubles: Mike Walters and Brandi Concannon defeated Joe Ruggles (131) and Charlene Schaldach (2645).



WENDELL NELSON (143) USED THE WORD EUPHORIA to describe the emotion glowing on his face when he reached the peak of Little Bear Mountain in Colorado. On Sept. 6, Wendell achieved his goal of peakbagging (climbing without ropes or technical climbing equipment) all 54 Colorado Fourteeners. He began his assault on the 14,000-ft.-and-higher mountains in 1972. Wendell has been a member of the New Mexico Mountain Club for 20 years. Standing behind Wendell is Charlie Muehlenweg, a former Sandian.

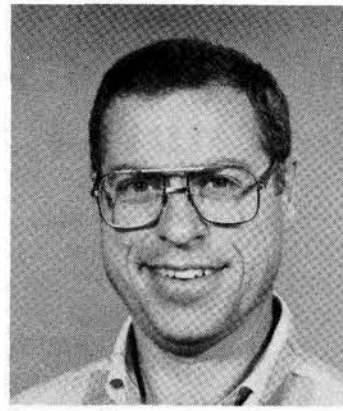
MILEPOSTS

LAB NEWS

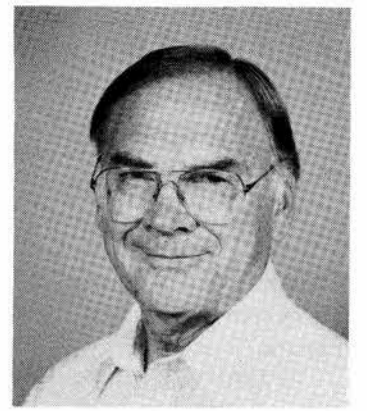
OCTOBER 1987



Marilyn Higley (7264) 10



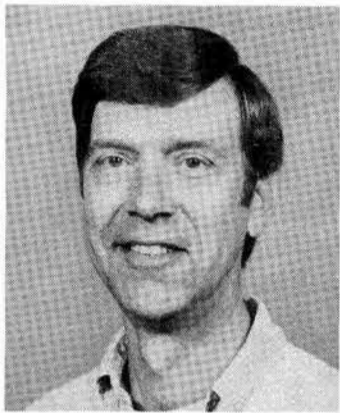
Forrest James (7481) 20



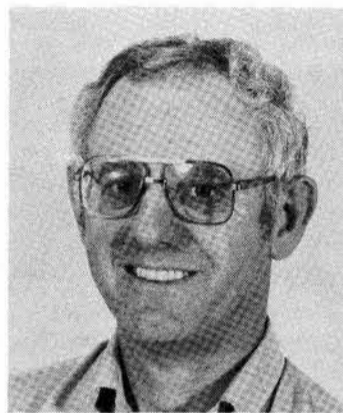
Bob Statler (7137) 40



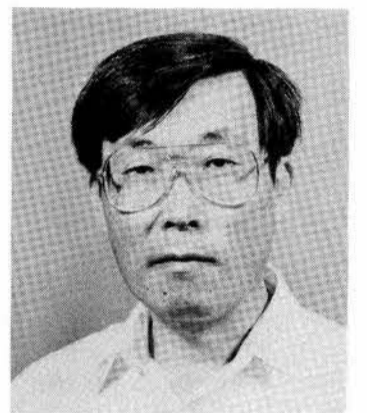
Larry Tichenor (7472) 30



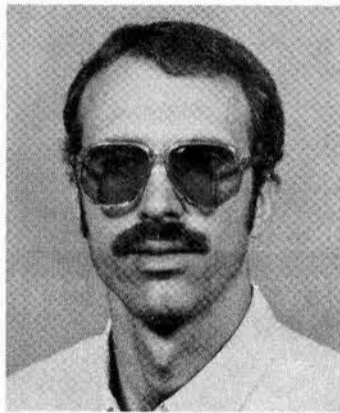
Dave Benson (1512) 15



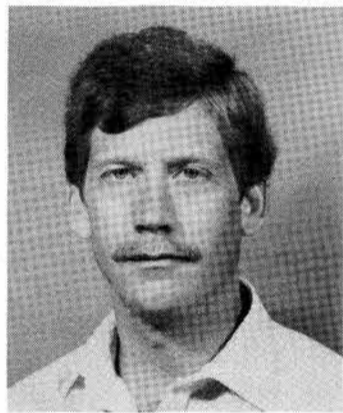
Charles Collier (7264) 25



Ken Lyo (1143) 10



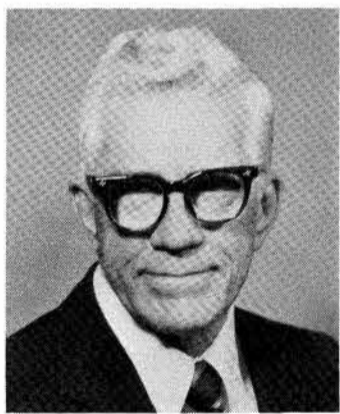
Richard Graham (2855) 10



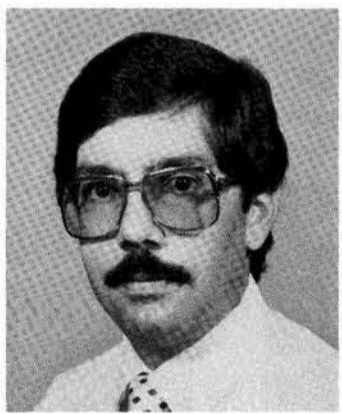
Allen Camp (6412) 10



Dorothy Marklin (7264) 30



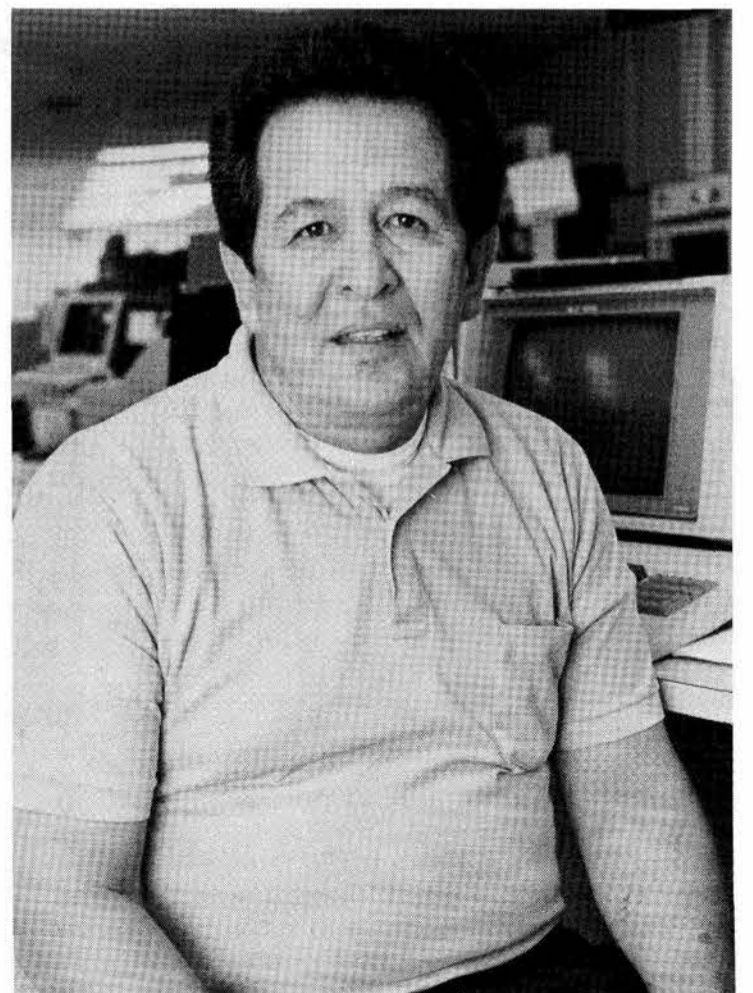
Bob Lowery (7261) 35



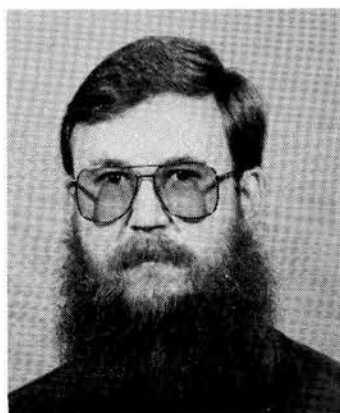
Dave Palmer (3551) 10



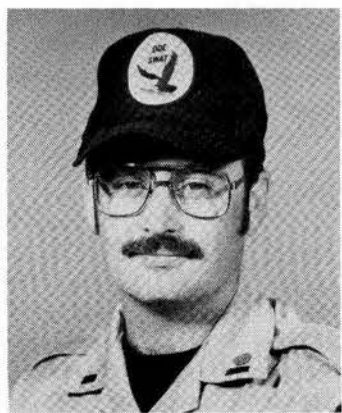
Joe Curzi (2513) 25



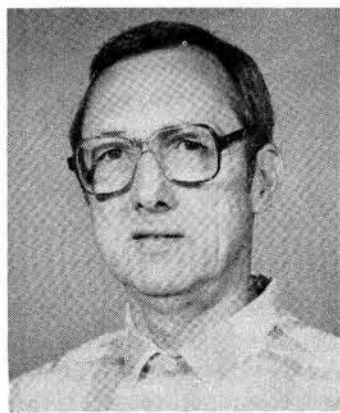
Eddie Vigil (2632) 20



Bill Vanselous (7482) 10



David Stout (3435) 10



Tommy Glauner (2342) 35

Observe Oktoberfest: Once-a-Year Oom-Pah-Pah Opportunity

THEY'RE PULLING OUT ALL THE STOPS on the oom-pah-pah machine tonight as everyone celebrates the season. No need to head for Germany; this is Oktoberfest with *oomph* — right here in River City. Start out the festivities with the two-for-one special dinner — your choice of two entrees (prime rib or scallops) for \$14.95 (less a \$1/person discount if you're a Club member). Next, settle back to watch a rousing floor show from 7:30 to 8 p.m. by the colorfully costumed Edelweiss Folk Dancers. After that the pace slows down a bit, as you dance the night away (8-11:30) to the mellow Big Band sounds of Don Lesmen and crew. Don't dally on the reservation; give the Club office a call right now (265-6791).

THE BRUNCH BUNCH gets back in the groove on Sunday (Oct. 11) from 10 a.m. to 2 p.m. Feast on fabulous food: baron of beef, turkey, fried fish, French toast, cheese omelets, bacon, fried potatoes, salsa, green beans almondine, tossed salad, a medley of desserts, and a variety of beverages. As you know, this one's in the best-buy category: \$5.95 for adults, \$3 for children 4 to 11, and free for kiddies under 4. Bring along your membership card and get a discount (up to \$2/family).

HELP TIDY UP THE TRAILS at the Coronado Ski Club's Sandia Peak "walkdown" this Sunday, Oct. 11. This annual event shapes up those slalom runs so they're ready for the schussboomers when the white stuff starts to fly. Meet your fellow cleaner-uppers at the ski lodge at 10 a.m., then take the chair lift (it's free) to the top of the ski area and walk down your favorite slope, picking up debris along the way. Starting at noon, there's all sorts of food available: green and red chile stew, hamburgers, soft drinks, beer, and wine. Cost is \$1 for members and \$3 for guests. More info from Ruthe Jones (4-7798).

Also, you won't want to miss the Ski Club's monthly meeting on Tuesday, Oct. 20, at 7 p.m. Speaker is Paul Souder, who'll show a terrific new film on Purgatory Ski Area. Who knows? You may even win one of those dandy door prizes for which this group is famous.

T-BIRD CARD SHARKS SHUFFLE into action two more times this month — Oct. 15 & 29. Both wheel/deal sessions begin at 10:30 a.m. The sharp sharks are getting so good they're ready to give anyone a run for the money, including the best darned dealer in Tinsel Town — right, gang? Come on out for the four Cs: cards, coffee, cookies, and conversation. And don't forget the DPs (door prizes); they're free, too.

BACK IN THE SADDLE AGAIN is where we'll all be a week from tonight (Oct. 16), when everyone whoops it up at Western Night. Line up at the chuck wagon first for the two-for-one special (filet mignon or poached halibut). Afterward it's sagebrush-shuffle time, courtesy of the Isleta Poor Boys, from 8 p.m. to midnight. Help out Chef Henry, king of the kitchen ranch hands, by calling in your reservation ahead of time.

RIGHT ON TARGET is the best way to describe the C-Club Dart League. Don't forget to sign up for fall league competition next Tuesday, Oct. 13, starting at 5 p.m. (Fiesta room). After sign-ups, plan to stay for a general membership meeting and a blind-draw doubles competition. Everybody's welcome — beginners, experienced types, or in-the-middles. The league's open to all adults employed on Kirtland AFB, plus retirees, dependents, and contractors.

SPINNING THEIR WHEELS is what Thunderbird Road Runners like to do best. That on-the-go RV group heads for Lake Havasu (Ariz.) later this month (Oct. 26-31). For details, contact wagon mas-



PRETTY MUCH HIDDEN by that big sign, Derek Mackel (son of Sharon, 9010) directed the lunch crowd at last year's Sandia Peak "walkdown," sponsored by the Coronado Ski Club. The annual fall slope-cleaning session is this Sunday (Oct. 11), starting at 10 a.m.

ters Duane Laymon (822-1749), Tom Brooks (344-5855), or Bill Minser (299-1364).

DO A MEAN MAMBO two weeks from tonight (Oct. 23), when the Freddie Chavez Foundation unleashes its south-of-the-border specialties from 8 p.m. to midnight. You might say the two-for-one that night is shrimplly delicious, since fried shrimp is one of your entree choices (the other is prime rib). All you Latin music lovers had best cha-cha to the phone this very instant to make that reservation; you won't want to miss this one.

SPOOKS AND SPECTERS SEASON means one thing: That old black magic prevails at the annual Halloween party on Sunday, Oct. 25, from 5 to 8 p.m. Festivities include lots of games (and prizes) throughout the evening, scary movies, and exploring that eerie haunted house (where the goblins'll git you if you don't watch out). There's also a costume parade — and prizes for the best getups. A low-cost buffet featuring hot dogs, hamburgers, and more is served from 5 to 7; popcorn, cokes, punch, and cookies are also available. Admission is \$1/child. This one's limited to members' kids only, so be sure to bring the membership card.



LAB NEWS PHOTOG Randy Montoya snapped this photo of last Sunday's "balloon glow," tethered hot-air balloons lit from within by their propane heaters. The event was a first for the 16-year-old International Balloon Fiesta, which ends this Sunday with another mass ascension of 500 balloons.

NOW IS THE HOUR for you to sign up for one — or more — of the amazing adventures planned by the C-Club Travel Committee. Here's a rundown:

Ukulele Universe (translation: Hawaii) awaits you when you head for the Islands from Oct. 30 to Nov. 9. This one has it all: stays on three islands (Oahu, Maui, and Kauai), first-class hotels, rental car per couple on Kauai and Maui, an authentic luau, optional ground tours. The \$989/person tab covers all of the above, RT air fare from Albuquerque, lei greeting in Honolulu, transfers and baggage handling, and much more. Better hop to it on the reservation; this one's right around the corner. Get a perspective on paradise at the pre-trip meeting next Wednesday, Oct. 14, at 7 p.m. in the dining room.

La-La Land — Get warmed up for the holidays on this expedition to Las Vegas (Dec. 11-13). The \$169/person price buys you round-trip air fare, two nights at the Four Queens Hotel, fun books for Tinsel Town attractions, a discounted rental car, and more. Make a deposit (\$50) by Oct. 26; final payment not due until Nov. 16.

Florida Fun and Fantasy — What better place to spend the holidays (Dec. 26-Jan. 2) than warm and wonderful Orlando, Fla.? Something's happening every minute on this perfect family vacation. Featured are three days at Disney World/Epcot Center, a day at Sea World, a Medieval Times dinner show, a day at Cypress Gardens, and a tour of Cape Canaveral. Cost is \$847/person (adult, double occupancy), which covers admissions to the above, RT air fare, five buffet breakfasts, seven nights at the Ramada Resort Maingate, and ground transportation. There's a price break for kids sharing a room with parents: \$663, ages 12-17; \$618, ages 3-11. This one's likely to fill up fast, so better call the Club office for reservations ASAP (265-6791).

Caribbean Caravan: Join it Jan. 22-29. You'll spend an action-packed week at the luxurious Club Cozumel Caribe on the island of Cozumel, just off the Yucatan coast. Everything — and we do mean everything — is included in your trip tab of \$835/double. For that very reasonable price, you get a garden-view suite; all meals; unlimited beer, wine, and cocktails; nightly entertainment; all sorts of leisure-time activities such as parties, fiestas, movies, and snorkeling; and round-trip air fare. You'll also have an opportunity to take optional tours to Chichén Itzá and other archeological sites in the area — or how about some deep-sea fishing? A deposit of \$100/person is required to hold your space; final payment due on Nov. 30 (cancellation insurance available). Want to know more about this great getaway? Plan to attend a briefing on Oct. 28 at 7 p.m. in the dining room.